ABSTRACT

PT Holcim Beton Pasuruan is one of the agregate mining company that used surface mining with quarry method. Jeladri quarry is owned by PT Holcim Beton Pasuruan located at Pasuruan Regency, Jawa Timur. The mining activities produce a slope, whether the temporary slope (production stage) or the final slope. The slope stability performance is important as a consideration on mining activities. One of the activity that can be used on knowing slope stability performance is slope monitoring. The visual observation is used as slope monitoring methods. This method is working on collecting rock mass condition such as photograph and rock mass field forms. It has been found discontinuities form wedge from visual observation and besed on that data it is necesarry to analysis safety factor from that section of slope to know its performance.

The addtional problems in this mining area are the identification of rock mass characteristics and rock mass strength have not been known.

The solutions on these problems are to make an investigation and field mapping of rock mass characteristics. First, Point load test is used to carry out the rock mass strength. Second, Kinematic analysis can be used to determine modes of slope stability with stereographic projection. Third, the Hoek-Brown strength criterion are used to measure rock strength properties. Fourth, close forms are used to determine the safety factor of the slope. Through the solutions, the information about slope performance can be used to analysis the existing geometry slope.

The research has been done at Location 1 Southern and Location 2 Northern. Based on research analysis, there are three blocks of wedge. One of the blocks may be not failure and the two others may be failure. Furthermore the safety factor for Location 1 Southern at dried and saturated condition are 83,27 and 59,42. Henceforth the safety factor for Location 2 Northern at dried and saturated condition are 171,14 and 148,40. Based on that values of the safety factor, the analysis come with conclusion that the stablity of slope are classified stable for mining activities.